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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,921	11/21/2003	Wade Martin Poteet	86581-0003	7563

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HOGAN & HARTSON LLP  
IP GROUP, COLUMBIA SQUARE  
555 THIRTEENTH STREET, N.W.  
WASHINGTON, DC 20004

EXAMINER
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WEBB, CHRISTOPHER G

ART UNIT	PAPER NUMBER
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2884

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/717,921	<b>Applicant(s)</b> POTEET ET AL.	
	<b>Examiner</b> Christopher G. Webb	<b>Art Unit</b> 2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-28 and 30-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32-34 and 36-38 is/are allowed.
- 6) ☒ Claim(s) 1,4-6,8-12,14,15,17,21,24-26,28,35 and 39 is/are rejected.
- 7) ☒ Claim(s) 7,13,16,18-20,22,23,30 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20060608</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Allowable Subject Matter***

The indicated allowability of claims 1, 4-6, 8-12, 14-15, 17, 21, 24-26, 28, 35, and 39 is withdrawn in view of the newly discovered reference(s) to Hodgkinson and Adachi.

Rejections based on the newly cited reference(s) follow.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 6, 8-9, 11, 15, 17, 21, 24-28, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole et al. (US 2003/0160231 A1, hereafter Cole) in view of Hodgkinson (GB 2,365,966 A, hereafter Hodgkinson).

With respect to claim 1, Cole discloses an UV fluorescence detector comprising: an excitation light source (fig. 5, element 510); a sample platform (fig. 5, element 520); an UV detector (fig. 5, element 114); and an analysis module for matching the induced fluorescence to a predetermined signature spectrum (paragraph [0037], lines 14-16). Cole does not teach the use of optics for directing the first excitation light to the platform. Hodgkinson teaches an UV fluorescence apparatus with optics for directing the excitation light to the sample-receiving platform (fig. 2, element A). It would have

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been obvious at the time of invention to one of ordinary skill in the art to use the optics of Hodgkinson in the apparatus of Cole. Using optics to direct the light would allow a more precise delivery of the excitation light to the sample and permit varied configurations of the device.

As to claim 4, Cole does not teach the use of one of an optical lens, a shutter, a filter, a mirror, a fiber optic coupler, and an optical fiber. Hodgkinson teaches the use of an optical fiber (fig. 2, elements A and B). It would have been obvious at the time of invention to one of ordinary skill in the art to use the fibers of Hodgkinson as noted above with respect to claim 1.

As to claim 6, Cole discloses an input optic for passing the induced fluorescence to the UV detector (fig. 5, element 112).

As to claim 8, Cole discloses a second optic for receiving the induced fluorescence (fig. 5, element 112).

As to claim 9, Cole discloses that the second optic includes a filter (paragraph [0037], line 10).

As to claim 11, Cole discloses that the apparatus may include a spectrograph (paragraph [0036]).

As to claim 15, Cole discloses that the detector comprises a signal processor in the form of a tunable band pass filter (paragraph [0027], lines 15-17).

As to claim 17, Cole discloses that the excitation light source includes at least an UV LED (paragraph [0037], lines 6-7).

As to claim 21, Cole discloses that the detector detects signals within about 240 nm to about 540 nm (paragraph [0029]).

As to claims 24-25, Cole does not teach that the detector comprises a handheld scanner connected to the detector via fiber optic cables. The apparatus taught by Hodgkinson teaches a hand-held scanner connected to a UV detector via fiber optic materials (page 6, lines 1-6). It would have been obvious at the time of invention to one of ordinary skill in the art to use a handheld scanner connected to the detector by fiber optic materials. This would allow the apparatus to be field-portable.

As to claims 26-27, Cole does not teach that the detector can detect UV emissions from a chemical compound. Hodgkinson teaches a detector that can detect UV emissions from a chemical compound (page 3, lines 18-20). It would have been obvious at the time of invention to one of ordinary skill in the art to use the detector of Cole to detect UV emissions from a chemical compound as taught by Hodgkinson. This would allow detection of chemical contaminants on-site as opposed to in a laboratory setting (Hodgkinson, page 3, lines 10-12).

As to claim 28, Cole discloses a method for detecting and analyzing chemical substances using UV fluorescence comprising the steps of directing an excitation light source onto the sample (paragraph [0037], lines 6-8); receiving induced fluorescent energy from the sample (paragraph [0037], lines 9-10); and determining the nature of the sample based on the received energy (paragraph [0037], lines 14-18). It would have been obvious at the time of invention to one of ordinary skill in the art to use a fiber as taught by Hodgkinson as noted above with respect to claim 1.

Claim 39 recites the limitations of claims 1 and 24. Claim 39 is rejected accordingly.

Claims 5, 10, 12, 14, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole in view of Hodgkinson as applied to claims 4 and 9 above, and further in view of Adachi (US 2002/0022766 A1, hereafter Adachi).

With respect to claims 5 and 10, Cole in view of Hodgkinson does not teach the use of a filter wheel. Adachi teaches an endoscope that employs UV fluorescence and makes use of filter wheels (fig. 1, elements 23 and 25). It would have been obvious at the time of invention to one of ordinary skill in the art to use the filter wheels as taught by Adachi in the apparatus of Cole in view of Hodgkinson. The use of a filter wheel allows for a fine-tuning of the excitation light or the light from the induced fluorescence.

As to claim 12, Cole in view of Hodgkinson does not teach the use of a CCD detector. Adachi teaches a CCD detector (fig. 1, element 15). It would have been obvious at the time of invention to one of ordinary skill in the art to use a CCD detector as taught by Adachi in the apparatus of Cole in view of Hodgkinson. The use of CCDs is well known in the art, as they are noted for high quantum efficiency.

As to claim 14, Cole in view of Hodgkinson does not disclose that the apparatus comprises a computer. Adachi teaches the use of a computer (paragraph [0064]) connected to the system. It would have been obvious at the time of invention to one of ordinary skill in the art to use a computer in the apparatus of Cole in view of Hodgkinson for purposes of display and further processing.

Claim 35 recites limitations of claim 1 in combination with a limitation of claim 12. The rejections of claims 1 and 12 are applied accordingly. Additionally, claim 35 discloses an apparatus comprising an analysis module for matching the induced fluorescent energy against a previously determined spectrum. Cole does not teach such a module. Hodgkinson teaches a method comprising the step of matching spectroscopic patterns (page 6, line 19-page 7, line 1). It would have been obvious at the time of invention to one of ordinary skill in the art to include an analysis module in the apparatus of Cole to perform the step disclosed by Hodgkinson. The use of such analysis would assist in the analysis of, for example, PCBs against a range of other chemicals.

#### ***Allowable Subject Matter***

Claims 32-34 and 36-38 are allowed.

Claims 7, 13, 16, 18-20, 22-23, and 30-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: As the number of UV fluorescence detectors found in prior art was limited, certain features specified in the claims listed above were not found in the prior art, specifically camera platforms, a F/2 lens of the given dimensions, a cooled CCD, a powered sample receiving platform, a pulsed UV source, or a controller that monitors the excitation light source for the purpose of detected substance spectrum stabilization.

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Furthermore, no similar apparatus was found that would suggest that these elements be added to a detector of this type. A method was not found in which a lens of the specified dimensions was used, nor was the step determining found wherein the determinations comprised comparing ranges and defining a match based on a predetermined standard deviation between received fluorescence and predetermined UV parameters.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher G. Webb whose telephone number is (571) 272-8449. The examiner can normally be reached on 9AM - 5:30PM M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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CGW



DAVID PORTA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800